



MID TERM BULLETIN 2025
January to June

Indian Academy of Pediatrics
Chennai City Branch





Indian Academy of Pediatrics

Chennai City Branch

OB & EB MEMBERS 2025



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President IAP CCB



Dr. S. Lakshmi Velmurugan
Past President 2024



Dr. P. Sudhakar
President Elect 2025,
EB Member, IAP TNSC



Dr. S. Subramanian
Secretary IAP CCB



Dr. Nisha Miriam George
Treasurer IAP CCB



Dr. N. Shajathi Begum
Editor, IAP CCB



Dr. Lakshmi Prashanth
EB Member IAP CCB



Dr. V. Priyavarthini
EB Member, IAP CCB



Dr. Prasanna Raju
EB Member IAP CCB



Dr. T. Thambarasi
EB Member, IAP CCB



Dr. K. Vindhiya
EB Member IAP CCB



Dr. Sridevi A Naaraayan
EB Member IAP TNSC



Dr. Balasubramaniam
EB Member IAP TNSC



Dr. Ramkumar
EB Member IAP TNSC



Dr. Annamalai Vijayaraghavan
CIAP EB Member



Dr. G. Amalraj
CIAP EB Member

Editor's Message



Dear IAP CCBians,

It is with immense pride and a deep sense of commitment that I present this half yearly edition of the IAP CCB Bulletin. This bulletin stands as a testament to the collective efforts, shared knowledge, and unwavering dedication of IAP CCB EB and OB members. Each contribution underscores our common goal: to advance child health and well-being. We believe that by amplifying diverse voices and highlighting community-driven initiatives, we strengthen the very fabric of the IAP. I extend my sincere gratitude to all who have contributed to this issue, and we encourage every member to engage with the content, share their insights, and continue to participate actively. My journey with this new vibrant team lead by our enthusiastic President Dr. Somasundaram ably supported by Dr. Subramanian and Dr. Nisha has been an eye opener for me personally and trendsetter for the Academy. My sincere thanks to the whole team for their encouragement and support

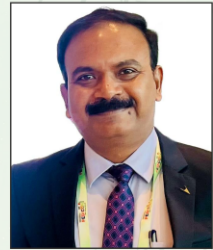
Best regards

In Academy Service

Dr. N. Shajathi Begum

Editor IAP CCB

President's Message



Respected Teachers, Seniors, and my dear fellow members of the IAP Chennai City Branch,

Season's Greetings to you all!

It is an honour to address you as the President of the Indian Academy of Paediatrics, Chennai City Branch. As we continue our mission to advance paediatric care, advocate for children's health, and support our members, I am deeply inspired by the dedication and unity within our community. As we continue our journey this year, I am filled with gratitude for the passion and commitment each of you brings to our shared mission: promoting the health, well-being, and development of every child.

My sincere respect and gratitude to the outgoing President, **Prof. Dr. Lakshmi Velmurugan**, and her team for the tremendous work accomplished during 2024.

Looking back, here is what we have accomplished together.

Advancing Excellence in Paediatric Care

Monthly continuing medical education programs, workshops, and webinars were conducted to promote best practices.

- ❖ **"Dengue Care Continuum – From Clinic to Critical Care":** This inaugural CME offered a comprehensive perspective on dengue management, including vaccination.

- ❖ **“SENSEational CME”**: A uniquely designed program focusing on the five special senses—an academic treat for attendees.
- ❖ **PNEUMO CONCLAVE 2025**: A thorough exploration of all aspects related to pneumonia.
- ❖ A **webinar on medicolegal protection** discussed doctors' rights and patient benefits.
- ❖ **“Best of Allergy”**: A CME featuring an international speaker provided new insights into allergy management.
- ❖ **“CUTIS”**: An expertly curated module on paediatric dermatology, which was very well received.
- ❖ **“Grand Rounds,”** led by **Dr.Y.K.Amdekar** and **Dr. R. Palaniraman**, was a great success.
- ❖ A webinar on complementary feeding, featuring **Dr. K. E. Elizabeth** and **Dr.R.Somasekar**, received excellent engagement and positive feedback.

Affiliation Programs

- ❖ **World Epilepsy Day**: A CME was organised by Kauvery Hospital, Radial Road, to update knowledge on childhood seizures.
- ❖ **International Childhood Cancer Day**: An awareness CME was conducted by Apollo Cancer Centre, Chennai.
- ❖ **PedGastro Update**: Organized by the Paediatric Gastroenterology Association in collaboration with IAP CCB, this event featured wide-ranging discussions on paediatric gastroenterology.
- ❖ **AUTCON by NICE** brought in new insights into the management of Autism.

❖ **IAP MAP -ALS program** in KKCTH along with IAPTNSC gave a hands on approach to critical management of a child.

❖ **My sincere thanks to all the faculties and the institutions**

Heartfelt thanks to the CME coordination team - **Dr. V. Priyavardhini, Dr. Nisha M. George, and Dr. Lakshmi Prashanth** - for their outstanding efforts in planning these events.

Strengthening Community Engagement

❖ **BLS training**, with a focus on paediatric CPR and foreign body management, was conducted for the public at East Tambaram by **Dr. Vindhya** and her team.

❖ The importance of **complementary feeding** was emphasized during community outreach programs at:

- **Anganwadi, Kamaraj Nagar (Adyar)** – led by **Dr. T. Thambarasi**
- **Cantonment Board General Hospital, Pallavaram** – led by **Dr. K. Vindhya**

Building Professional Growth

To support the next generation of paediatricians, we launched the **Student Support Program**, titled "**Virtual Gurukulam – PG e-Learning from the Gurus.**" This year-long initiative fosters mentorship by connecting postgraduate students with experienced paediatricians for academic guidance, case discussions, and professional development.

I extend my heartfelt gratitude to **Dr. S. Balasubramanian** for graciously accepting the role of **Program Convener**. I am also deeply thankful to **Dr. Prasanna Raju** and **Dr. Nisha** for their pivotal efforts in thoughtfully matching each Guru with the right Sishya.

The program has seen remarkable engagement and growth in just six months, thanks to the commitment of our dedicated faculty and the enthusiastic participation of students. Your contributions have laid the foundation for a culture of continuous learning, collaboration, and excellence in paediatrics.

Expanding Knowledge

NACHUNU NAALU POINT (NNP) – a weekly release of four-point summaries on diseases, drugs, or diagnostic tools by field experts – has made a strong impression among paediatricians across the country.

Special thanks to NNP team conveners **Dr. P. Ramachandran** and **Dr. R. V. Dhakshayani**, and coordinators **Dr. V. Priyavarthini**, **Dr. Prasanna Raju**, and **Dr. N. Shajathi Begum** for their tireless efforts.

Looking Ahead

We have several academic programs planned for the next six months that will further enrich our knowledge and strengthen professional development.

- ❖ The **Annual Mega CME** of IAP Chennai City Branch is scheduled for **November 2025**.
- ❖ The **Golden Jubilee Conference** of the IAP Tamil Nadu State Chapter will be hosted by **Team IAP CCB** in **August 2026**.

Acknowledgements

Heartfelt thanks to our Central EB members **Dr. Annamalai Vijayaraghavan** and **Dr. G. Amalraj**, and our StateEB members **Dr. P. Sudhakar**, **Dr. Sridevi A. Naaraayan**, **Dr. S. Balasubramanian**, and **Dr. S. Ramkumar** for their unwavering support.

Appreciation to **Dr. N. Shajathi Begum**, our Editor, for meticulously planning and publishing our biannual bulletin.

Special thanks to our Secretary **Dr.S.Subramanian** and **Dr. Nisha Miriam George** for their consistent support throughout the year.

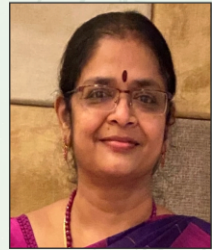
I encourage all members to actively participate in our upcoming events. Your expertise and passion are vital to shaping the future of paediatrics. Together, let us foster innovation, mentorship, and collaboration to ensure every child receives the best possible care.

Thank you for your unwavering commitment. Let us continue to lead with compassion, science, and advocacy.

Dr A Somasundaram

President IAPCCB 2025

Past President Message



Dear IAP CCBians,

It's a pleasure to connect with you again through the pages of our Bulletin. As a past president, I always look forward to these updates, seeing the continued vitality and progress within our organization. The landscape of pediatrics is ever-evolving, and I'm consistently impressed by the dedication and resilience of our members.

I've been particularly heartened to see the ongoing new initiatives of the current IAP CCB leadership. Their focus on community programs and broader reach in academics..to mention NNP is commendable for the continued growth and impact of our academy.

Looking ahead, the next half-year promises new opportunities for learning. Let's continue to uphold the high standards of our academy united in our mission to ensure the well-being of every child.

Warm Regards

Dr.S.Lakshmi Velmurugan

Past President , IAPCCB

Secretary's Message



Dear colleagues and friends,

It gives me great pleasure to share this message through the half-yearly edition of our IAP Chennai City Branch bulletin. The past six months have been marked by a flurry of meaningful academic engagements, collaborative programs, and active member participation. From thought-provoking CMEs to impactful public health campaigns and flagship initiatives from Central IAP, our branch has remained aligned with the broader goals of the Academy. A key highlight has been the thoughtful implementation of the Presidential Action Plan, with focused efforts to promote community engagement, early child development, and academic enrichment across levels of pediatric practice.

We are especially proud of the way our members have embraced these themes and brought them to life through diverse formats. Our branch has also witnessed increasing participation from pediatric postgraduates, early-career professionals, and sub-specialty experts—bringing in a welcome diversity of perspectives and renewed energy. I take this opportunity to express my heartfelt gratitude to our Executive Board team, whose dedication and teamwork have been exceptional. Our progress has been greatly strengthened by the unwavering support of our past, present, and incoming Presidents, along with our State and Central IAP Executive Board members. Their mentorship and vision continue to inspire us.

As I reflect on our journey so far, I am reminded of the words of Dr. A.P.J. Abdul Kalam, who said: "Excellence is a continuous process and not an accident."

"This statement beautifully captures the spirit of our branch. The strides we make in academic rigor, collaborative learning, and child-centered care are not one-time events but part of a sustained and evolving process. It is through consistent effort, feedback, and refinement that we truly create meaningful impact. As we head into the second half of the year, may we continue to pursue excellence-not as an endpoint, but as a way of working and thinking together.

Warm regards,

Dr. S. Subramanian

Secretary IAP CCB

Treasurer's Message



Dear fellow members of IAPCCB

It has been a privilege for me to be a part of IAP CCB since the last 4 years. I remain very grateful to Dr Ezhilarasi, President IAP CCB 2022 whose inclusive vision for IAP CCB was instrumental in me being a part of the IAP CCB EB. It was such an eye opener and an experience for me – I moved from ignorance to a lot more knowledge. It helped me to truly appreciate the presence of an Indian association of Paediatrics, an own Indian identity for Paediatrics at all levels from National to District, thus affecting our work and practise.

2025 As a Treasurer.

It was again an honour to be a Treasurer for IAPCCB for the period of time- 2024-2025.

Dr Somasundaram took over as President. Again, we were blessed to have an energetic President, we started of the year with a comprehensive plan for programs. From the program for PGs – An interesting clinic that every month taught teachers how to teach and taught students about presentation and paediatrics, to the well-chosen sessions for Paediatricians. In addition, every month there was the original snapshots of learning from the 'Nachunnu Nallu point'.

The unique feature of each of these programs is that Dr Somasundaram designed them to be run under the guidance of different senior and learned faculty of the city. This resulted in programs that were enormously enriched by the experience of their 'guides'.

Dr Somasundaram's' attention to detail resulted in well-funded and set up programs

Another 6 months lies ahead. The plans are not small.

Once again, thanks to Our President Dr Somasundaram, Secretary Dr Subramanian and the enthusiastic EB members of Chennai city Branch whose efforts are the reason every program is a success. Thank you once again, Ms Premila of the IAP CCB office who is the reason behind the smooth flow of CCB operations.

Thanking you

Dr Nisha M George

Treasurer IAPCCB 2024-2025

IAP CCB Activities for the Period January to June 2025

Date	Program Name
January 26.01.2025	IAP CCB conducted the First Physical program of the year - "Dengue care continuum-From clinic to critical care and the new Dengue Vaccine "
28.01.2025	IAP CCB conducted the "Virtual Gurukulam PG E Learning Program" Session 1 on "Spastic Diplegic Cerebral Palsy"
26.01.2025	IAP CCB launched "Nachunu Naalu Point (NNP) – Medical facts in 4 points on every sunday
February 10.02.2025	IAP CCB associated with Kauvery Hospital conducted a CME - "Update on Paediatric Epilepsy"
19.02.2025	IAP CCB associated with Apollo Cancer Centre, Chennai conducted the CME on "Childhood Cancer Awareness 'Inspiring Action'"
23.02.2025	IAP CCB conducted offline CME on senses - "SENSE-ational CME"
25.02.2025	IAP CCB conducted the "Virtual Gurukulam PG E Learning Program" Session 2 on "Short cases in Pediatric Nephrology"
March 09.03.2025	IAP CCB conducted offline CME "PNEUMO Conclave 2025"
23.03.2025	IAP CCB associated with Nishta Centre conducted conference on Autism - "AUTCON 2025"
25.03.2025	IAP CCB conducted the "Virtual Gurukulam PG E Learning Program" Session 3 on "Neonatology"

Date	Program Name
26.03.2025	IAP CCB conducted webinar Program on "Medico Legal Day"
30.03.2025	IAP CCB associated with Paediatric Gastroenterology Foundation conducted CME on Pediatric Gastroenterology - Pedgastro Update 2025
April 17.04.2025	IAP CCB associated with Sanofi conducted the CME on Allergy - "Best of Allergy"
20.04.2025	IAP CCB associated with VHS Hospital conducted the CIAP Program on Dermatology - "CUTIS: Clinical Update for Tackling Issues of Skin" Module
29.04.2025	IAP CCB conducted the "Virtual Gurukulam PG E Learning Program" Session 4 on "Hematology - Immunology"
May 04.05.2025	IAP CCB associated with Alkem Pharma conducted "Grand Rounds" an offline teaching CME
11.05.2025	IAP CCB associated with KKCTH conducted a program on ALS - "IAP MAP ALS Program for Practitioners"
27.05.2025	IAP CCB conducted the "Virtual Gurukulam PG E Learning Program" Session 5 on "Cardiology"
June 11.06.2025	IAP CCB conducted Online webinar on "Complementary Feeding Day"
24.06.2025	IAP CCB conducted the "Virtual Gurukulam PG E Learning Program" Session 6 on "Pulmonology"

OBITUARY



Dr.P.S.Muralidharan, MD,DCH.,



Dr.Mohammed Sajjid, MD.,DM



Inauguration during Dengue Care Continuum CME



Installation of New President



Team IAP CCB 2025



**Launching of NNP Nachunu Naalu Point during
Dengue Care Continuum CME**



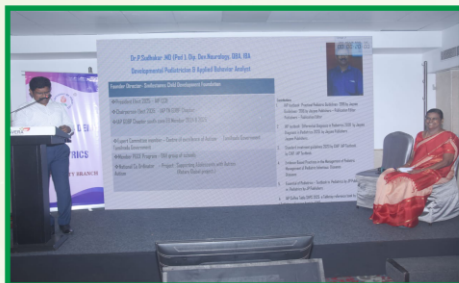
IAP CCB receiving National Award

SENSE - ational CME


Indian Academy of Pediatrics
 Chennai City Branch
 presents
PNEUMO CONCLAVE 2025

Date: 9th March 2025 Time: 9 am to 100 pm
Venue: Hotel Savera, R.K Salai, Mylapore, Chennai - 600004.
Learn from the Experts
Everything about Pneumonia
Registration free but mandatory
Limited slots only
<https://forms.gle/LtWskXpohWuesN8>
Dr. S. Balasubramanian President IAP CCB **Dr. Manj. Manjun. George** Secretary IAP CCB
 Associate Sponsor by **Pfizer**

PNEUMO CONCLAVE - 2025		
Time	Topic	Faculty
08.30 am - 09.00 am: Registration		
Session I - Chairperson: Dr.S.Sundari		
09.20 am - 09.30 am	Childhood Pneumonia: Understanding Disease Burden & Etiology	Dr.P.Sethakar
Session II - Chairperson: Dr.D.Vijayasekaran		
09.20 am - 09.40 am	Clinical Spectrum of Childhood Pneumonia: A Case-based Discussion	Dr. Sa Sivalalan
09.40 am - 09.50 am	Discussion	
Session III - Panel Discussion		
09.50 am - 10.30 am	Diagnostic Approach to Pneumonia	Moderator: Dr.S.Sarasubramanian Panelists: Dr.Prashant Raje, Dr.N.Devaseena, Dr.S.Elayaraja
Session IV - Panel Discussion		
10.30 am - 11.10 am	Treating Pneumonia: Lessons from Real-World Cases	Moderator: Dr.N.C.Gowrishankar Panelists: Dr.B.Sarath Balaji, Dr.K.Saundharan, Dr.Lakshmi Prashanth
11.10 am - 11.40 am: Inauguration and tea		
Session V - Panel Discussion		
11.40 am - 12.20 pm	Preventing Pneumonia: Strategies for Comprehensive Protection	Moderator: Dr.P.Ramachandran Panelists: Dr.K.Rajalingam, Dr.A.S.Karthikeyan, Dr.R.Venkateswari
Session VI - Panel Discussion		
12.20 pm - 12.50 pm	Mastering Soft Skills: Effective Communication for Vaccine Advocacy	Moderator: Dr.S.Srinivasan Panelists: Dr.R.Samudrak, Dr.S.Balasubramanian
Followed by Lunch		



Pneumo Conclave 2025



CUTIS- Clinical Update for Tackling Issues of Skin Module



COMPLEMENTARY FEEDING DAY
June 6th 2025
Theme: CA-GDP For Growth, Development & Prosperity

**TIMELY, ADEQUATE,
SAFE AND ACTIVE FEEDING FOR ALL CHILDREN**

"FOR OPTIMAL GROWTH AND HEALTHIER TOMORROW"



**Indian Academy of Pediatrics
Chennai City Branch**

COMPLEMENTARY FEEDING DAY

Date: 6th June 2025
Theme:

"Timely, adequate, safe and active feeding for all children" - For optimal growth & healthier tomorrow

Do's - HARD FOOD

- H - Hand hygiene.
- A - Active & responsive feeding.
- D - Daily feeding, uninterrupted, even during illness.
- F - Feeding frequency should be age-appropriate.
- O - Optimal amount of food.
- O - Optimal texture/thickness/consistency as per age.
- D - Different food groups- include at least five of the food group everyday.

Don'ts

- * Delay in starting complementary feeding.
- * Use outside, artificial, packaged & junk foods.
- * Foods with excess of sugar, salt, and trans-fatty acids.
- * Bottle-feeding.
- * Use of screen while feeding.
- * Force feeding.
- * Foods that may cause choking.

COMPLEMENTARY FEEDING DAY JUNE 6TH

Start complementary food after 6 months and continue breastfeeding for 2 years.

Dr A Somasundaram President, IAP CCS
Dr S Subramanian Secretary, IAP CCS
Dr Nisha Miriam George Treasurer, IAP CCS
Compiled by: Dr.K.Vinodhya EB Member, IAP CCS

**Indian Academy of Pediatrics
Chennai City Branch**

COMPLEMENTARY FEEDING DAY

DATE : JUNE 6 2025
Theme:

**Timely, adequate, safe and active feeding for all children:
For optimal growth and healthier tomorrow**

TIPS FOR COMPLEMENTARY FEEDING

WHEN TO START COMPLEMENTARY FEEDING?

- Baby should sit upright and hold the position.
- Baby should have completed 6 months of age.
- Consult your pediatrician before starting solids.

HOW TO START COMPLEMENTARY FEEDING?

- Start with single-ingredient foods like pureed cereal (rice idli), mashed fruits and vegetables.
- While your baby is eating breastmilk, they can begin eating solid food slowly and it's important to make sure it's a mix of cereals, fruits and vegetables.
- New foods should be introduced one at a time. Maintain a gap of 3 days between introducing two new foods so that if any problem such as a food allergy develops it can be easily identified.
- If your baby develops any food allergy then stop feeding that particular food. Also, consult your pediatrician in such cases. (Diarrhea, vomiting, constipation, rashes and too-much crying due to stomach pain are the symptoms in the baby that indicate a possible food allergy).
- Introduce the new foods only in the morning to see how your baby tolerates that food.
- Always give home-made and fresh nutritious food to your little one.
- Water can be introduced as per baby's need.
- Sterilize the baby utensils that are used for cooking and feeding.
- Fruits are best given in their natural form, as they are eaten.

SIX KEY POINTS OF COMPLEMENTARY FEEDING:

1.FREQUENCY:

- Two meals a day - infants aged 8-9 months
- Three meals a day - 9-12 months
- Four meals a day-1-2 snacks may be offered -12-23 months

2.AMOUNT:

- Begin with 2-3 teaspoons of food and transition to about 1/2 cup (250ml) per meal - 6-8 months.
- Provide 1/4 cup per meal - 9-11 months.
- Provide 3/4 cup to 1 cup per meal - 12-23 months.

3.TEXTURE & TASTE:

- The consistency of food should gradually evolve (from soft to semi-solid to solid) with age, according to the child's requirements and abilities.
- Young children move from eating mashed foods, to finger foods, to family foods by the time they reach their first year.




4.VARIETY:

- Many food preparations may be refused by the child; hence, try different food combinations, with different tastes, textures and methods of encouragement.

5.ACTIVE RESPONSIVE FEEDING:

- Do not force-feed the child. Forcing can create negative association with food. Hence, talk to children while feeding and maintain eye-to-eye contact-THIS IS CALLED RESPONSIVE FEEDING

6.HYGIENE:

- Use clean hands, utensils, storage containers, cups, and plates for feeding.
- Avoid using feeding bottle. Food that looks fresh and smells good should be offered.
- The perishable foods (meat, milk, etc.) and prepared food should be stored in a refrigerator.
- Cover the food properly and feed to the child within 2 hours if refrigerator is not available.

HOW TO INCREASE THE ENERGY DENSITY OF COMPLEMENTARY FOOD ?

- Add ghee, jaggery, vegetable oils, butter
- The protein content of foods can be improved by combining cereals and pulses
- Use different cooking methods such as milling, germination, and fermentation of different food items.
- Offer thick, smooth mixtures for better energy density

FOODS TO INCLUDE IN COMPLEMENTARY FEEDING:
(8 groups of food pyramid)

- Breast Milk
- Grains, roots and tubers
- Legumes and nuts
- Dairy products (yogurt, cheese)
- Fresh foods (meat, fish, poultry, liver or other organs)
- Eggs
- Vitamin A-rich fruits and vegetables
- Other fruits and vegetables

FOODS TO AVOID IN COMPLEMENTARY FEEDING:

- Biscuits, breads, pastries, chocolates, cheese, wafers, ice cream, doughnuts, cake
- Tinned foods, packaged or stored foods, artificially cooked foods with preservatives or chemicals
- Fruit juices and fruit drinks
- Commercial/breakfast cereals
- Repeatedly fried foods containing trans-fatty acids
- Any food containing HFSS- (high in fat, salt and sugar)

When and how children should eat



NURTURING LITTLE TUMMIES WITH MOM MADE GOODNESS. CONTINUE BREASTFEEDING TILL 2 YEARS OF AGE

Dr A Somasundaram President, IAP CCS
Dr S Subramanian Secretary, IAP CCS
Dr Nisha Miriam George Treasurer, IAP CCS
Compiled by: Dr.Thambasai T EB Member, IAP CCS

Complementary Feeding Day Poster and Handouts released during Complementary Feeding Day CME



INDIAN ACADEMY OF PEDIATRIC CHENNAI CITY BRANCH

presents

COMPILATION OF VIRTUAL GURUKULAM

January to June 2025

Convenor:
Dr. S.Balasubramanian

Coordinators:
Dr. Prasanna Raju
Dr. Nisha M. George

JANUARY 2025	PEDIATRIC NEUROLOGY Gurus: Dr.S.Balasubramanian Shisyan: Dr.Madhan	<u>Youtube Link</u>
FEBRUARY 2025	PEDIATRIC NEPHROLOGY Gurus: Dr.S.Lakshmi Velmurugan, Dr.G.Sangeetha Shisyan: Dr.Rachana I V	<u>Youtube Link</u>
MARCH 2025	NEONATOLOGY Gurus: Dr.S.Manikumar, Dr.R.Somasekar Shisyan: Dr.Priyadarsni Muthukrishnan	<u>Youtube Link</u>
APRIL 2025	HEMATOLOGY-IMMUNOLOGY Gurus: Dr.S.Ezhilarasi, Dr.Revathi Raj Shisyan: Dr.Raghav G	<u>Youtube Link</u>
MAY 2025	PEDIATRIC CARDIOLOGY Gurus: Dr.Saileela, Dr.S.Sundari Shisyan: Dr.K.Poomasri	<u>Youtube Link</u>
JUNE 2025	PULMONOLOGY Gurus: Dr.S.Thangavelu, Dr S Elayaraja Shisyan: Dr.Anirudh	<u>Youtube Link</u>

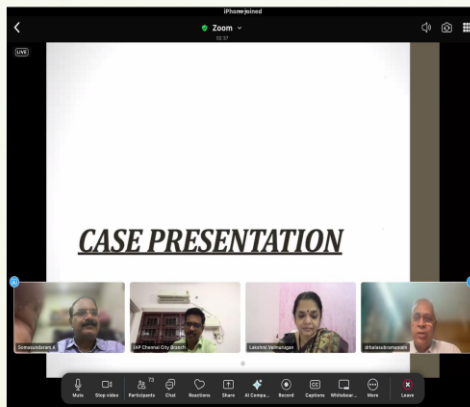
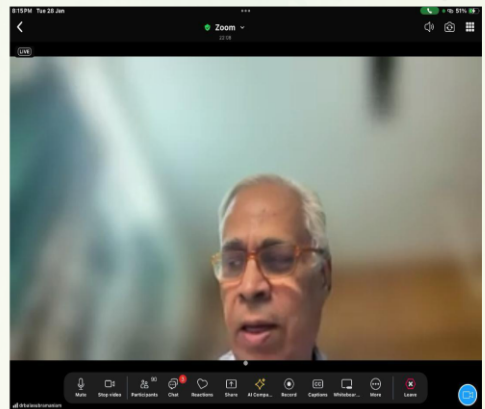
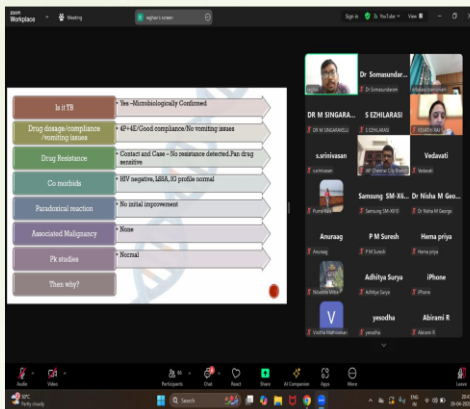
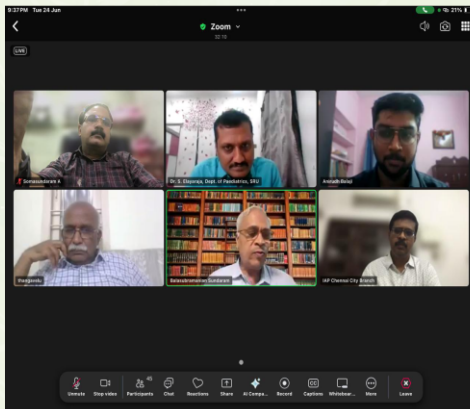
The IAP Chennai City Branch has been delighted to host the Virtual Gurukulam – E-Learning from the Gurus series for pediatric postgraduates. These interactive sessions aim to enhance clinical reasoning and practical insights through structured case presentations, guided by experienced faculty. We are happy to share the YouTube links of the first six sessions conducted in 2025 for your continued learning and reference.

We thank all the senior faculty (Gurus) and enthusiastic postgraduates (Shishyans) for their participation. We hope this initiative continues to support and strengthen the postgraduate learning community.

President
Dr A Somasundaram

Secretary
Dr.S.Subramanian

Treasurer
Dr Nisha Miriam George



Virtual Gurukulam E Learning Program January to June 2025

A Practical Approach to Common Clinical Dilemmas

Dr. Somu Sivabalan

MBBS, MD (Ped) DNB (Ped), MNAMS, FCCP (USA), FIAP, FICS, FCMA (UK), FAPSR, FRCP (Edin)
Consultant Pediatrician & Pulmonologist
Rainbow Children's Hospital, Anna Nagar, Chennai



- ❖ Bronchodilators (β -agonist) don't work in young children?
- ❖ B2 receptors are not well developed in young children for bronchodilators to act?
- ❖ Are infants obligate nasal breathers?
- ❖ Is a cough alone a symptom of asthma?
- ❖ Can all recurrent coughs or persistent coughs be treated as Cough Variant Asthma?

Pathogenesis of acute disturbing (barking) cough in older children?

Understanding Our Airways

Our airways stretch all the way from the tip of the nose to the alveoli where gas exchange occurs. The upper airway includes not just the nasal passages but also the paranasal sinuses and the eustachian tube. Anatomically, it extends to the vocal cords, but in clinical practice, it refers to structures above the collarbone (extra-thoracic airway).

The lower airway is more complex, containing 23 branching generations. The first 16 divisions form the conducting zone, and divisions 17–23 constitute the respiratory zone, where actual gas exchange happens (Fig.1).

- ❖ Bronchus (up to 10 divisions): Have cartilaginous walls.
- ❖ Bronchioles (divisions 11–19): Lacking cartilage but containing smooth muscle and elastic tissue.
- ❖ Alveolar ducts and sacs (beyond division 19): The true gas exchange units.

Decoding Respiratory Sounds

- ❖ Our airways "speak" in various ways depending on the site of obstruction.

Stridor:

- ❖ A predominantly inspiratory noise, indicating obstruction above the thoracic inlet (extra-thoracic). Acute, progressive stridor warrants urgent attention.

Wheeze:

- ❖ A musical sound heard during expiration, caused by oscillation of narrowed intrathoracic airway walls.

Important Clinical Clues

- ❖ Cough receptors exist only in airways: absent in the epiglottis and lung parenchyma
- ❖ Not all noisy breathing is wheeze. Distinguishing is essential for accurate diagnosis.
- ❖ Persistent voice change or hoarseness suggests glottic pathology.

Basic understanding of Bronchiolitis:

Bronchiolitis is a clinical syndrome seen in children under 2 years, characterized by upper respiratory symptoms (like runny nose), followed by lower respiratory signs (wheezing, crackles). In research, it is often described as the first wheezing episode in infants under 12–24 months with a viral lower respiratory infection.

Pathogenesis:

It involves non-specific inflammation of small airways (≤ 2 mm diameter), leading to edema, excessive mucus, and cellular debris that obstruct small bronchioles. Biopsies show necrosis of bronchiolar cells, ciliary loss, and lymphocytic infiltration.

Management:

- ❖ Supportive care
- ❖ Adequate hydration and nutrition
- ❖ Maintain oxygenation; prevent respiratory failure
- ❖ Respiratory support: high-flow nasal cannula (HFNC), non-invasive or invasive ventilation as needed.

First Episode of Wheeze: Is It Always Bronchiolitis?

No. While bronchiolitis is common, the first wheeze in infants can also be:

- ❖ Virus-induced wheezing
- ❖ Acute viral-triggered asthma
- ❖ First presentation of asthma (clarified only over time)

Why Don't Bronchodilators Always Work in Bronchiolitis?

Their effectiveness in bronchiolitis is inconsistent. In true bronchiolitis, the problem lies in distal airway inflammation and obstruction rather than bronchospasm, so bronchodilators offer limited benefit. Moreover, inhaled bronchodilators only reach up to the 14th airway generation, missing the small bronchioles primarily affected in bronchiolitis. Lack of response is not because infants lack β_2 -receptors, as they are present and functional from birth.

Special Considerations in Infants

- ❖ Obligate nasal breathers: Infants breathe only through the nose until 2–6 months old (except when crying).
- ❖ Less developed intercostal muscles and horizontal ribs limit chest expansion.
- ❖ Smaller airways mean minor swelling can cause major resistance.
- ❖ Higher metabolic oxygen demand (6–8 mL/kg/min vs. 3–4 mL/kg/min in adults).
- ❖ Fewer bronchioles and alveoli, with incomplete collateral ventilation pathways (Pores of Kohn, Channels of Lambert and Martin {Fig. 2} develop fully only by 3–5 years).

When to Be Cautious with β -Agonists

While β -agonists can rarely cause arrhythmias, tachycardia alone (due to distress, fever, or hypoxia) is not an absolute contraindication. However:

- ❖ Be cautious in disproportionate tachycardia, HR >180/min, or hemodynamic instability.
- ❖ A crying child can still receive inhaled therapy, though it can increase airway resistance and drug delivery. The key is to effectively deliver in a non-threatening manner.

Cough: Not Always Asthma

Cough is a symptom, not a disease. In asthma it results from airway inflammation and hyperresponsiveness, often with other signs.

Cough Variant Asthma (CVA):

A rare form marked by chronic dry cough, abnormal spirometry, but no classic asthma symptoms.

Barky Cough:

Seen in laryngeal/tracheal infections ("croup equivalent") {Fig. 3}.

- ❖ Supraglottic: Normal voice and cough.
- ❖ Glottic: Hoarse voice and barky cough.
- ❖ Subglottic: Normal voice but barky cough.

Conclusion:

- ❖ Pediatric airways are anatomically and functionally different, making them prone to obstruction and collapse.
- ❖ In bronchiolitis, bronchodilators often fail - disease is mainly distal airway obstruction and inflammation.
- ❖ Cough Variant Asthma is a less common form of asthma characterized by a DRY CHRONIC Cough with abnormalities in spirometric indices, with no evidence of other respiratory symptoms or infection.
- ❖ Always differentiate wheeze and noisy breathing carefully; avoid overdiagnosing asthma or bronchiolitis.

Fig 1: Representation of lower airways

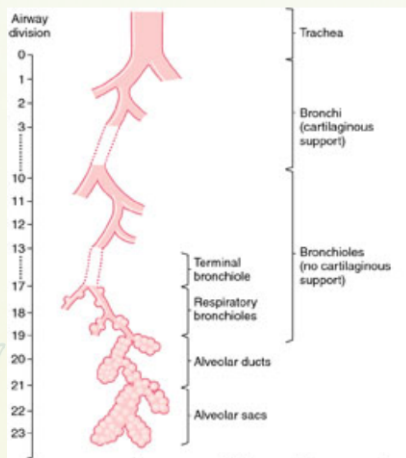


Fig 2: Pores of Kohn (interalveolar), channels of Lambert (alveolo-bronchiolar) and channels of Martin (inter-bronchiolar)

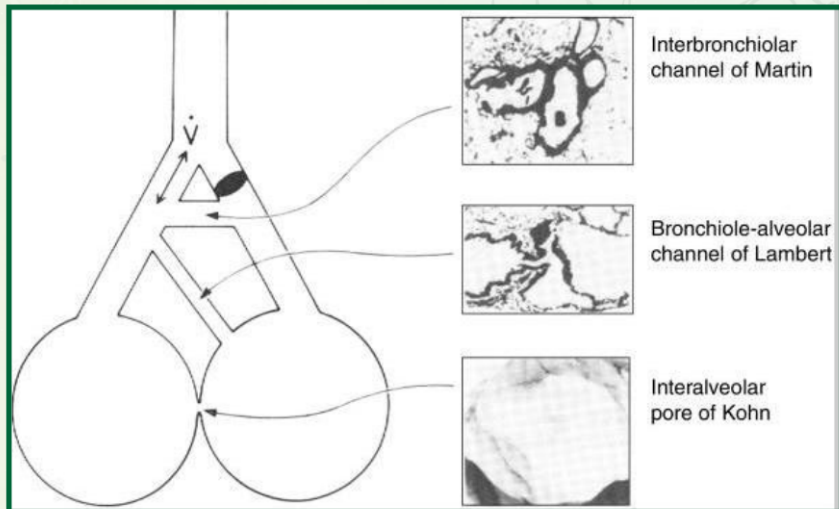
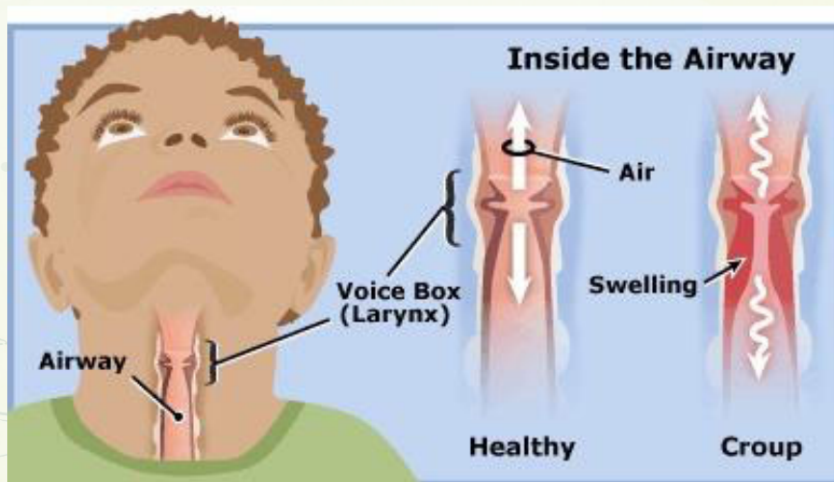


Fig 3: Pathology in croup



Essentials Of Allergy Testing

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INTRODUCTION

Different modalities of allergy testing are available now-a-days. Any single technique is not complete in itself. It has its own benefits and limitations

BASIS OF ALLERGY TESTING

Sensitization

In genetically predisposed individuals, T-cells are activated via first time exposure of antigen (allergen) through antigen presenting cell (APC). The differentiated I-cells are responsible for class switching of the B-cell through various interleukins like IL-4 and IL-13. This process leads to IgE production (type I hypersensitivity) and release in circulation. The process, where the specific IgE are bound to the mast cells, is labeled as sensitization.

Re-exposure

Whenever a second exposure to the offending allergen happens, the allergen binds to specific IgE on the mast cells to activate it. The mast cell activation causes massive release of histamine and other preformed allergy mediators. These cytokines are responsible for clinical symptoms, which could vary from asymptomatic to severe anaphylactic reaction.

The detection of released IgE or mast cell mediators forms the basis of allergy testing.

DIAGNOSIS OF TYPE I HYPERSENSITIVITY

Allergic disorders are suspected on the basis of nature of chief complaints, detailed relevant history, knowledge about environmental exposure and a minor contribution from physical examination . A suggested history provides the clue for the possible allergens, which directs for laboratory tests or the detection of IgE mediated hypersensitivity reactions.

LABORATORY TESTS

In Vitro Test

Total IgE

Allergens that are typically proteins, e.g. the dust mite Der P1 , cat Fel di or components from grass, weed, tree pollens and certain foods. These proteins are responsible for immediate (type I hypersensitivity) reactions. Reexposure of culprit allergen causes release of various mediators like histamine, leukotriene, and certain cytokines which are responsible for clinical manifestations . Total IgE levels are neither sensitive nor specific for the diagnosis of allergy.

Serum Specific IgE

Allergen specific IgE (sIgE) obviates the false-positive total IgE in disorders other than allergies. Is it based on the radioallergosorbent test (RAST), a technique of solid phase assay which consists of incubating a patient's serum with a preactivated allergen, conjugated to a cellulose paper disk. sIgE, if present in the serum, will bind to the respective allergens on the paper disk while rest of the antibodies are washed away. Bound IgE is then detected by the addition of a radiolabeled ([25) antihuman IgE directed toward the Fc receptor. The amount of bound radiolabeled antihuman IgE is measured in a gamma counter in a quantitative manner.

Component Resolved Diagnostics

Crude allergen extracts, containing many allergenic and less/ non allergenic components, were used conventionally for sigE estimation. Some of these components are structurally homologous with other environmental allergens. For instance, Ara h1, 2, 3 and 9 are allergenic proteins of peanut with high risk of allergy whereas Ara h8 has very low risk.

In Vivo Test

Skin test

Allergy skin testing (AST) detects the presence of bound IgE attached to mast cells and basophils. It acts like a second exposure to the offending allergen (in minute quantities under controlled conditions) to the sensitized person, thus releasing histamine and other cytokines responsible for immediate wheal .Skin test is considered as "gold standard for diagnosis of IgE-mediated allergic disorders

Table 1 : Important differences between AST and SsIgE

SsIgE	Skin test
Little cooperation required	Patient cooperation warranted
No risk of any reaction to patient	Slight risk of systemic reaction present
Can be done if patient on any drugs (antihistaminics, steroids, etc.)	Patient should be off antihistaminics and antidepressants.
Can be done soon after anaphylaxis or in acute exacerbation	Requires a time gap after anaphylaxis or acute exacerbation
Can be done with any skin condition	Area of normal skin is required
Widely available	Requires an allergist or an experienced person

Laboratory standardisation required	No standardization at present
Minor pain during venesection	Minor discomfort, painless, bloodless
Results takes at least 48 hours	Result available in 20 minutes
Not directly meaningful to patient, not adding any value to allergen avoidance measures	Results are visible and compelling to patients; may have value in ensuring compliance with allergen avoidance and immunotherapy
Detect free IgE only, so detects hypersensitivity	Based on bound IgE and released cytokines, detects clinically relevant hypersensitivity (allergy)
Reasonably good sensitivity	Better sensitivity for clinically important allergies
Many food allergens, drugs and rare pollens are not available for testing	Can extemporaneously prepare allergens and do prick-prick testing
Chances of false-positive with high total IgE levels	Chances of false-positive with high total IgE levels

Epicutaneous AST or commonly called as skin prick test is widely used for allergen identification with good clinical correlation. This is absolutely a safe test and has arguably no side effects.

Technique of epicutaneous allergy skin testing: Forearm and upper back are the most commonly used sites for SPT. A small drop of antigen (allergen) is placed on the skin and a sharp instrument is passed through the drop, penetrating the skin at approximately 45°. The device is then lifted quickly, creating a minute break in the epidermis. Approximately 0.3 uL of fluid is introduced into the skin at a depth of 1 mm just beneath the stratum corneum (in the epidermis only).

Who should be tested?

Patients with moderate-to-severe symptoms and/or persistent symptoms should be tested for allergen identification. Repeated uncontrolled symptoms requiring frequent reliever medications would be another cohort of patients who need to be evaluated.

Selection of antigens for allergy skin testing: Mostly the selection of antigens is guided by patient's history, demographic factors and occupational exposure. Inhalants, ingestant (foods) and injectable (venoms) are the important groups of allergens. Inhalants could be indoor (house dust, house dust mites, cockroaches, pets and fungal spores) or outdoor (tree, grass and weed pollens and fungal spores).

Interpretation of skin-prick test or skin-touch test: Limited number of allergens are tested on patient's forearm or back with positive (histamine) and negative (normal saline) controls. Negative control is considered as acceptable, if wheal through saline prick is between

0-3 mm in diameter; more than that suggests dermatographism (baseline reactivity of the skin) demanding invalidity of the test.

Positive control with histamine has to be equal to or more than 3 mm than the negative saline control for validity of the test. Any reaction equal to or more than 3 mm of negative control (saline) is considered positive AST.

Area of the body: The mid and upper back are more reactive (33%) than the lower back for wheal and flare reaction after the SPT. The back as a whole is more reactive (53%) than the forearm. There should be at least a gap of 5 cm away from the wrist and 3 cm away from antecubital fossa, on the forearm, for better skin reactivity.

Distance between two pricks: The recommended gap between two contiguous test sites should be a minimum distance of 2 cm.

Patch Test

During the atopic patch test (APT), intact protein allergens are applied epicutaneously followed by evaluation of the induced eczematous skin lesions during a periodic assessment over next 7 days. The APT is based on type IV hypersensitivity reaction.

Provocation Test

A small quantity of a suspected allergen is introduced, through natural route, to the patient under strict monitoring. Such types of challenges are useful when history is inconclusive, and none of the in vivo or in vitro tests are supporting the diagnosis.

Food Challenge

Food challenges are considered to be the "gold standard" tests for detecting adverse reactions to food items. Immune mechanisms, inducing IgE and non-IgE mediated, are best detected by challenge test. Oral food challenges may be open, single-blind or double-blind placebo controlled.

Elimination diet: A trial elimination for at least 6-12 weeks of the suspected food (s) should be tried prior to food challenge. It may be of three forms:

1. Elimination of one or several suspected foods.
2. Elimination of all but a defined group of allowed foods.
3. An elemental diet consisting of hydrolyzed formula or amino acid-based formulas in infants. The symptoms should resolve once culprit food is eliminated from the diet and they should reappear once the particular food is reintroduced.

Nasal Provocation Test

It is an extremely helpful method, though not standardized and less practiced, when there is any discordance between medical history and the result of AST and/or serological tests. Test allergen extract is applied over the anterior part of the inferior turbinate, with consequent allergic reaction development.

Bronchial Challenge Test

This test is also called as methacholine or histamine challenge test, done for asthma diagnosis. Both drugs provoke bronchoconstriction, which can be quantified by spirometry. Histamine causes nasal and bronchial mucus secretion and bronchoconstriction via H1 receptor, whereas methacholine acts on M receptors. This test is routinely not recommended and is absolutely contraindicated in patients with severe airway obstruction.

CONCLUSION

Diagnosis of allergy is mostly dependent on detailed focused history with a small contribution from physical examination. Pharmaceutical industries are flooded with lot of allergy tests, we need to be vigilant in choosing the appropriate one for individual patient. While choosing the allergen panel, exposure history and local environment of the patient should be kept in mind .

TAKE HOME POINTS

1. Total IgE levels are neither sensitive nor specific for the diagnosis of allergy
 2. History with Allergy Skin Testing is gold standard in Diagnosis of common allergies
- SsIgE and Component Resolved Diagnostics may be done in selected cases in conjunction with an allergy specialist.